**Title:** Hierarchical Tag-Based Attraction Recommender System

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**Attraction Recommender System**
- Implicit User Preference Acquisition
- Hierarchical Tag Structure
- Weighted Tag Probability Algorithm
- Swipe-based User Interaction

**Weighted Tag Probability Algorithm**

\[ W_P = (w_{P_1}, w_{P_2}, \ldots, w_{P_K}) \]

\[ P = (p_1, p_2, \ldots, p_K) \]

\[ P(p) = \frac{e^{w_{P_i}}}{\sum_{k=1}^{K} e^{w_{P_k}}} \]

**Hierarchical Tag Structure**

```
   P_k
   /   \
S_1   S_3
   |   |
 A    B
   |
 S_2
```

**Tag Probability vs. Variance Factor**

- 70%
- 60%
- 50%
- 40%
- 30%
- 20%
- 10%
- 0%

- 0.01
- 0.02
- 0.03
- 0.04

<table>
<thead>
<tr>
<th>Theme</th>
<th>Tag 1</th>
<th>Tag 2</th>
<th>Tag 3</th>
<th>Tag 4</th>
<th>Tag 5</th>
<th>Tag 6</th>
<th>Tag 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theme A</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
<td>G</td>
</tr>
<tr>
<td>Theme B</td>
<td>H</td>
<td>I</td>
<td>J</td>
<td>K</td>
<td>L</td>
<td>M</td>
<td>N</td>
</tr>
<tr>
<td>Theme C</td>
<td>O</td>
<td>P</td>
<td>Q</td>
<td>R</td>
<td>S</td>
<td>T</td>
<td>U</td>
</tr>
</tbody>
</table>

**Demo Available**